IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Carcagno *et al.*

Appl. No. 09/830,964

§ 371 Date: November 5, 2001

For: **Methods of Purifying Recombinant Human Erythropoietin from Cell Culture Supernatants**

Confirmation No. 5291

Art Unit: 1654

Examiner: Patten, P.A.

Atty. Docket: 1909.0030002/JAG/PAJ

Reply To Restriction Requirement

Commissioner for Patents
Washington, D.C. 20231

Sir:

In reply to the Office Action dated July 25, 2003, requesting an election of one invention to prosecute in the above-referenced patent application, Applicants hereby provisionally elect, with traverse, to prosecute the subject matter of Group III, represented by claims 13-16. This election is made without prejudice to or disclaimer of the other claims or subject matter disclosed. Applicants reserve the right to file one or more divisional applications directed to non-elected subject matter should the restriction requirement be made final. In such case, Applicants retain the right to petition from the restriction requirement under 37 C.F.R. § 1.144.

The present application is governed by unity of invention rules. *See* 37 C.F.R. § 1.499. In interpreting those rules, the M.P.E.P. states that "[a] group of inventions is considered linked to form a single general inventive concept where there is a technical relationship among the inventions that involves at least one common or corresponding special technical feature." *See* Manual of Patent Examining Procedure ("M.P.E.P."), Eighth ed., rev. Feb. 2003, at § 1893.03(d). The M.P.E.P. further states that a "special technical

feature" is defined as meaning "those technical features that define the contribution which each claimed invention, considered as a whole, makes over the prior art." *See id.*

It is the Examiner's position that the present application contains three Groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. (*See* Office Action, page 2.) In particular, the Examiner asserts that

> [t]he claims are lacking a special technical feature as the alleged special technical feature is not novel over the prior art. For example, Miyake et al. (1977) disclosed all of the instantly claimed method steps (claim 1) for purification of erythropoietin . . . .

(Office Action, page 3.) Applicants respectfully disagree with the Examiner.

Group I (claims 1-2 and 4-12) is drawn to a method for purifying recombinant human erythropoietin according to the steps of claim 2; Group II (claims 1 and 3-12) is drawn to a method for purifying recombinant human erythropoietin according to the steps of claim 3; and Group III (claims 13-16) is drawn to a substantially pure erythropoietin, produced by the method of claim 1. Applicants respectfully submit that claims 1-12 (Groups I and II) should also be examined with Group III since all three Groups relate to a single inventive concept. Claims 1-12 are directed to a method of purifying recombinant human erythropoietin from cell culture supernatant, and claims 13-16 are directed to substantially pure erythropoietin produced according to the claimed methods. Accordingly, the claims are all related as directed either to methods for purifying recombinant human erythropoietin or substantially pure erythropoietin produced according to the claimed methods. Applicants point out that the present situation is similar to Example 1 set forth in Annex B, Part 2 of the PCT Administrative Instructions, which provides that unity exists between a method of manufacturing a substance and the substance itself. *See* M.P.E.P. at AI-67.

Applicants further assert that Miyake *et al.* do not teach the presently claimed methods. The Examiner points to Table V of Miyake *et al.* as disclosing Applicants' claimed method. (*See* Office Action, page 3.) Table V summarizes the seven-step human erythropoietin (EPO) purification method of Miyake *et al.* which includes: (1) DEAE-cellulose chromatography; (2) phenol extraction; (3) ethanol precipitation; (4) DEAE-agarose fractionation; (5) sulfopropyl-Sephadex chromatography; (6) Sephadex G-100 filtration; and (7) hydroxylapatite chromatography.

In contrast to the Miyake *et al.* method, the claimed method of purifying human EPO comprises a combination of the following steps: (a) differential saline precipitation; (b) hydrophobic interaction chromatography; (c) concentration and diafiltration; (d) anionic exchange chromatography; (e) cationic exchange chromatography; (f) concentration and diafiltration; and (g) molecular exclusion chromatography. It is clearly apparent from a comparison of these two methods that they are different, *e.g.*, the Miyake *et al.* method requires organic solvents, whereas the present invention avoids the use of "harmful organic solvents." (Specification, page 5, lines 23-30.) In addition, Miyake *et al.* disclose the purification of EPO from urine concentrates from patients, whereas the present invention is directed to a method of purifying *recombinant* human EPO from cell culture supernatant.

In view of the above, it is evident that the claimed inventions of Groups I-III possess special technical features that impart novelty over Miyake *et al.* Accordingly, the basis for the Examiner's contention that the inventions of Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 has been obviated since, under Rule 13.2, the Groups possess the same special technical feature over the prior art.

Reconsideration and withdrawal of the Restriction Requirement, and consideration and allowance of all pending claims, are respectfully requested.

It is not believed that extensions of time are required, beyond those that may otherwise be provided for in accompanying documents. However, if additional extensions of time are necessary to prevent abandonment of this application, then such extensions of time are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required therefor are hereby authorized to be charged to our Deposit Account No. 19-0036.

Respectfully submitted,

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